Cysticercosis Trends in Los Angeles County

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-- Introduction --

- 70 cysticercosis deaths occurred in Los Angeles County (LAC) from 1990-2002, representing 32% of those reported nationally.1
- An intervention program was initiated in LAC in 1988 to screen close contacts of reported cases and identify and treat carriers.
- Carriers were identified in 7% of LAC cases who had household contacts tested (1988-1991).2

-- Objectives --

- Determine trends in morbidity for LAC cases by reviewing available disease monitoring systems.
- Compare recent cases to earlier cases to explain any trends identified.

-- Methods --

- Review:
  - Cysticercosis cases reported passively to the LAC health department.
  - Hospital discharge data using diagnosis codes (ICD9 123.1) for principle diagnosis.
  - Deaths using National Center of Health Statistics multiple causes of death data (ICD9 123.1 and ICD10 B69-B69.9).

- Changing Demographics?
  - Health Department Cases (1988-90 vs. 2003-06):
    - Early and later cases are mainly adult Latino immigrants.
    - Later cases are older (mean age 28 vs. 35 yrs).
    - Later cases have lived in the U.S longer (U.S. >10 yrs, 28% vs. 38%, p=0.03).

- Changing Severity at Time of Detection?
    - Severity of later cases was comparable to earlier cases (except headaches, p=0.04).
    - Later cases are older (mean age 30 vs. 39 yrs).

-- Disease Trends - Multiple Data sets --

- Hospitalizations (N=1941):
  - Decreasing 5.3% per year ($R^2=0.8$).
- Health Department Reports (N=389):
  - Decreasing 3.6% per year ($R^2=0.7$).
- Mortality (N=40):
  - Decreasing 0.6% per year ($R^2=0.4$).

-- Conclusion --

- The older age of later cysticercosis cases could indicate that later cases are taking longer to detect, increasing the likelihood of a poor outcome. This is supported by the fact that mortality did not decrease as much as reported or hospitalized cases over time.
- However, if later cases are taking longer to detect, we would expect to see more severe symptoms at time of detection which the results did not support. Therefore, it appears that much of the reduction in cases is due to an actual decrease in the disease burden in the County, and that many of the cases occurring more recently are part of an earlier cohort of immigrants that continue to be detected at older ages.

-- Limitations --

- Case reporting results are limited by identification and reporting bias.
- Hospitalizations do not take into account repeat visits.
- Mortality results limited by small number of cases.

--References--